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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/425,592	10/22/1999	HONG HEATHER YU	9432-000084	9761

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EXAMINER

HEWITT II, CALVIN L

ART UNIT	PAPER NUMBER
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3621

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/425,592

Applicant(s)

YU ET AL.

Examiner

Calvin L Hewitt II

Art Unit

3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Status of Claims

1. Claims 1-20 have been examined.

Claim Objections

2. Claim 14 is objected to because of the following informalities: Claim 14 recites "decryting". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 7 and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Moskowitz et al., U.S. Patent No. 5,745,569.

As per claims 1, 2, 7 and 15, Moskowitz et al. teach a system for protecting digital code using a digital watermark comprising:

- providing active hidden data comprising executable machine instructions (abstract; column 2, lines 1-20; column 4, lines 56-67)
- embedding hidden data into a host signal (column 2, lines 10-14; column 5, lines 19-39; column/line 8/56-9/4)
- transferring the embedded data signal from a content provider device to a player device (column 7, lines 1-21; column/line 8/56-9/4)
- extracting and executing the hidden data on the player device (column/line 5/40-6/67; column 7, lines 1-21; column/line 8/56-9/4)
- providing hidden data and control data, embedding control data prior to transmitting hidden data and using the control data to ensure errorless extractability of the active hidden data prior to executing the hidden data on the player device (column 5, lines 40-67; column 6, lines 38-67)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 4, 16, 17 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al., U.S. Patent No. 5,745,569 in view of Leighton et al., U.S. Patent No. 5,949,885 and Rhoads, U.S. Patent No. 6,311,214.

As per claims 3, 4, 16, 17 and 18, Moskowitz et al. ('569) teach a system for securing content using digital watermarks (abstract; column/line 5/19-6/67). Moskowitz et al. ('569) do not explicitly recite orthogonal signals and domains, and spectrum domains. However, Leighton et al. apply orthogonal signals and embedding watermarks using spectrum domain schemes (e.g. DCT) to digital content authentication (column 5, lines 39-57; column 10, lines 44-51) while Rhoads teaches encoding watermarks in digital music (column/line 51/6-53/43). Therefore, it would have been obvious to one of ordinary skill of the art to combine the systems of Moskowitz et al., Leighton et al. and Rhoads. Moskowitz et al. direct their system to embedding digital watermarks with license information ('569, abstract) therefore, it would have been obvious to encode updated license data such as "copy never" in a domain orthogonal to the domain of the first watermark (or content data) so that it will be detectable in the continued presence of the first watermark (or content data) ('214, column 52, lines 13-21). Also, by applying the perpetual watermarking technique of Leighton et al. ('885, abstract) illicit copies and copier can be detected even if multiple persons combined to create the illicit copy.

6. Claims 5, 6, 8, 12, 13, 14, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al., U.S. Patent No. 5,745,569 in view of Barton, U.S. Patent No. 6,047,374.

As per claims 5, 6, 8, 12, 13, 14, 19 and 20, Moskowitz et al. teach securing digital content using encrypted watermarking to hide code resources that are essential to the proper function of an application (column 2, lines 1-20; column 4, lines 34-67; column/line 5/40-6/22). Moskowitz et al. also teach a player device for accessing the encrypted digital watermark (column 6, lines 36-67; column 7, lines 1-21; column 8, lines 1-19; column/line 8/56-9/4). However, Moskowitz et al. do not explicitly recite error-correction code. Barton teaches error correcting code for securing digital content (column 1, lines 25-33; column 4, lines 21-41; column/line 5/66-6/14; column 7, lines 27-32; column 11, lines 22-26). In particular, Barton applies an error correction algorithm to a watermark for authenticated digital content (figure 2; column 4, lines 54-67; column/line 7/55-8/27). Barton also teaches using authentication data embedded in digital content for authenticating content prior to extracting (column/line 5/50-6/54). Therefore, it would have been obvious to one of ordinary skill to secure digital content using a stegacipher ('569, column 5, lines 40-67) comprising error-correction code (column 9, lines 8-17) in order to prevent users from enjoying an unauthorized

but fully functional, error-free end-product or identifying changes in content ('374, column 4, lines 21-41; column 11, lines 22-26).

7. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al., U.S. Patent No. 5,745,569 in view of Barton, U.S. Patent No. 6,047,374 as applied to claim 8 above, and further in view of Leighton et al., U.S. Patent No. 5,949,885 and Rhoads, U.S. Patent No. 6,311,214.

As per claims 9-11, Moskowitz et al. teach securing digital content using encrypted watermarking to hide code resources that are essential to the proper function of an application (column 2, lines 1-20; column 4, lines 34-67; column/line 5/40-6/22) and Barton teaches error correcting code for securing digital content (figure 2; column 1, lines 25-33; column 4, lines 21-41; column/line 5/66-6/14; column 11, lines 22-26). Neither reference explicitly recites orthogonal signals and domains, and spectrum domains. Leighton et al. apply orthogonal signals and spectrum domain analysis to digital watermarking (column 5, lines 39-57; column 10, lines 44-51) while Rhoads teaches encoding watermarks in digital music (column/line 51/6-53/43). Therefore, it would have been obvious to one of ordinary skill of the art to combine the systems of Moskowitz et al., Barton, Leighton et al. and Rhoads. Both Moskowitz et al. and Barton teach methods for embedding digital watermarks with content-related information ('569, abstract;

'374, figure 2) therefore, it would have been obvious to encode updated content data such as "copy never" in a domain orthogonal to the domain of the first watermark (or content data) so that it ["copy never" message] will be detectable in the continued presence of the first watermark (or content data) ('214, column 52, lines 13-21). Also, by applying the perpetual watermarking technique of Leighton et al. ('885, abstract) illicit copies and copier can be detected even if multiple persons combined to create the illicit copy ('885, column 2, lines 13-22).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Moskowitz et al. (US 5,822,432) apply random key generation to a watermarking system
- Gruse et al. teach a key management system for a digital content player
- Moskowitz et al. (US 5,687,236) teach a steganographic method and device

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Calvin Loyd Hewitt II whose telephone

number is (703) 308-8057. The Examiner can normally be reached on Monday-Friday from 8:30 AM-5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

c/o Technology Center 2100

Washington, D.C. 20231

or faxed to:

(703) 305-7687 (for formal communications intended for entry and after-final communications),

or:

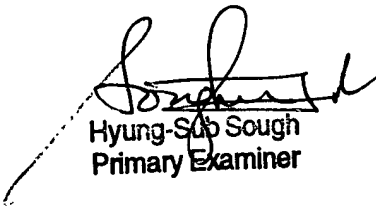
(703) 746-5532 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, 7th Floor Receptionist.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

Calvin Loyd Hewitt II

June 12, 2002



Hyung-Soo Sough
Primary Examiner